ENVIRONMENTAL ASSESSMENT, FONSI AND DECISION RECORD

BLM, Bishop Field Office
785 N. Main St, Suite E
Bishop, CA 93514

West Chalk Bluff
Voluntary Interim Seasonal Closure

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EA Number: CA-170-02-06

Location of Proposed Action: Western part of Chalk Bluff, T6S R32E Sections 19, 20, 21; T6S R31E Sec 24 east ½. See description of proposed action for boundaries.

Plan Conformance: The proposed action is subject to the Bishop Resource Management Plan (RMP), approved March 25 1993 (BLM 1993). The proposed action has been reviewed and is in conformance with the plan. It addresses the following RMP directives:

> Manage candidate species, sensitive species and other species of management concern in a manner to avoid the need for listing as state or federal endangered or threatened species (Standard Operating Procedure).
>
> Protect and enhance unique or important wildlife habitats (Area-Wide Action).
>
> Yearlong Protection of endangered, threatened, candidate, and sensitive animal habitats (Area-Wide Action).The definition of Yearlong Protection includes, "Existing uses and casual use would be managed to prevent disturbance which would adversely affect the target resource."
>
> Maintain or enhance habitat for endangered, threatened and candidate species, and other species of management concern (Decisions, Benton Management Area).
>
> Manage [portion including the south Tableland] for semi-primitive nonmotorized and motorized recreation opportunities (Decisions, Benton Management Area).
>
> Management decisions will protect scenery, and protect and enhance key wildlife habitat. They will also provide for a wide variety of dispersed semi-primitive recreation opportunities (Rationale, Benton Management Area).

Need for Proposed Action

The roughly 70,000 acre Volcanic Tableland extends from Casa Diablo Mountain to the Owens River just north of Bishop. Formed of a super-heated rhyolitic ash, ejected from the Long Valley caldera ~760,000 years ago, the Tableland is dissected by numerous north/south trending *en echelon* fault blocks. In the past three years, as these fault structures have become a focal point for the sport of bouldering and use of the faults has exponentially increased, resulting from local, national and international marketing of the area for its bouldering values, there has been a concomitant increase in concern for the potential impacts to biological and cultural resource values.

Two faults on Chalk Bluff, the steep southern edge of the Tableland overlooking the Owens River, have received the most publicity and the most climbing use. These two areas were named "Happy Boulders"

and “Sad Boulders” by climbers and both are in the eastern 1/3 of Chalk Bluff. The remainder of the bluff has so far received lighter climbing use. The BLM has worked closely with the bouldering community to concentrate use as a result of concern for impacts to the natural and cultural resource values on the Tablelands. Due to increasing use at the Happy and Sad Boulders, which at times results in crowded conditions, boulderers are seeking new opportunities in less congested areas.

BLM Bishop FO wildlife staff had long observed that Chalk Bluff was much used by raptors, and joined other local biologists and conservationists in concern that the influx of visitors might affect the raptor population. Many important archaeological sites had also been documented for the area, and BLM cultural resources staff noted a need to identify areas where sites could potentially be impacted by bouldering. Meanwhile recreation and wilderness staff developed concerns about whether these uses and our management are in compliance with RMP and IMP direction.

In 1999-2001, under contract with BLM, raptor biologists Floyd and Sandra Bero conducted breeding season surveys on and around the Tableland. In 1999 the study encompassed February and March, a time during which territories would have been established and nesting underway for most species. In 2000 and 2001 it was extended through May. The study involved intensive ground and sky searching for raptors and for evidence of raptor nests or perches with particular attention to likely potential nesting habitats for the various species observed. All parameters of breeding season behavior were monitored, with all raptor observations recorded and details of their behavior provided along with weather conditions, etc. Particular attention is given to raptors exhibiting territorial, courtship or breeding behaviors in order to determine if and where a nesting attempt is made and whether it is successful.

In its first year the study confirmed that Fish Slough and the Volcanic Tableland - particularly Chalk Bluff above the Owens River, the Owens Gorge, and East Side Bluff above Fish Slough - provided high quality raptor habitat. Nine species of hawk, falcon, eagle and owl were observed including 5 California Species of Special Concern. Breeding activity was documented for an estimated 14-21 pairs representing 5 species, 3 of which - Northern Harrier, Cooper’s Hawk and Prairie Falcon - are listed by the state of California as Species of Special Concern.

Chalk Bluff was found to provide especially valuable habitat for foraging and breeding behaviors with its locally-rare juxtaposition of steep and complex cliffs, prey-rich riparian habitat, and slope lift and thermal activity. Some raptor pairs, including golden eagle and prairie falcon, held territories and attempted to establish nest sites along Chalk Bluff that first year. Raptors that are not cliff nesters also made extensive use of the bluff. Northern harriers performed courtship flights and feeding activities along the bluff and seemed likely to establish nests in the broad, grassy riparian area at its base. Cooper’s hawks, red-tailed hawks and American kestrels were observed hunting along and above the bluff’s rim and slopes (Bero and Bero 1999).

The study identified the western part of Chalk Bluff, west of the most popular climbing area (Happy Boulders), as critical raptor habitat for breeding and foraging. It identified the eastern part, including Happy Boulders and Sad Boulders, as potential critical habitat because, although the habitat was otherwise similar, 85% of raptor activity was concentrated in the western 2/3 while 95% of human activity was concentrated in the eastern 1/3 of Chalk Bluff. It was inferred that the high level of human use might be influencing raptors to avoid the eastern part (Bero and Bero 1999).

Over the next two years the study continued to document patterns of raptor use which correspond with avoidance of human use. In 2000 and 2001, as human use of Chalk Bluff increased, virtually no raptor

activity was observed throughout Chalk Bluff. There were no pre-nesting activities such as courtship displays, territorial defense or stick-carrying such as were observed the first year.

Raptor numbers also declined throughout the study area. Raptor observations per hour dropped by approximately half each year, from 1.8 the first year to 0.9 the second year and 0.5 the third year, for a 72% decline over three years. The estimated number of breeding pairs declined by 43% by 2001, and the 8-12 pairs that remained were observed only at the periphery of the study area. There was no apparent similar decline within other well known habitats nearby that receive intensive raptor use and no bouldering activity, such as Bishop, Round Valley and Hammil Valley; nor did weather or prey availability appear to account for the change (Bero and Bero 2000, 2001). Because the study area's raptor activity was strongly centered around Chalk Bluff the first year, we surmise that raptor abandonment of Chalk Bluff for foraging and pre-nesting activities may have affected the entire study area.

During the same time visitors to "Happy Boulders" nearly tripled, from approximately 5000 in 1999 to 15,000 in 2001 (numbers are based on a trail counter located along the main foot trail to Happy Boulders). Climber visitation to"Sad Boulders," farther east along Chalk Bluff, correspondingly increased over the three year period from approximately 1,250 to 3,750 according to recreation staff's estimate. Visitation to "Sacred Boulders," west of Happy Boulders, has also increased especially during the past year.

Other studies have shown raptors making markedly less use of areas used for recreation as compared to otherwise similar control areas (e.g. Fletcher et al. 1999); have documented wide variation among raptor species, and among individuals within species, in levels of disturbance they will tolerate (e.g. Holmes et al. 1993, Richardson and Miller 1997); and have shown that raptors are much more sensitive to foot traffic than to vehicle approach (e.g. Holmes et al. 1993, Richardson and Miller 1997). Raptors may respond to human disturbance either by becoming more sensitized to it, or by becoming habituated to it. An area that is disturbed over a long period of time may eventually come to be occupied by habituated raptors only, while those individuals more sensitive to disturbance will have left (Schueck et al. 2001, Richardson and Miller 1997).

Areas in which raptors nest in proximity to climbing activity may often be those in which climbing began and/or became popular several years before the first raptor surveys were conducted (e.g. Connor 1991). In such instances it seems likely that the breeding population is composed of individuals that have a low sensitivity to disturbance and/or have become habituated during a period of gradually increasing use. In contrast, the local, site-specific Chalk Bluff survey (Bero and Bero 1999, 2000, 2001) documented the response of a raptor population during the very years that climbing suddenly became popular and very rapidly increased.

The evidence indicates an effect that is predictable in light of the well-documented variability in raptors' response to human disturbance. Any raptors that bred along Chalk Bluff prior to1999, perhaps including those individuals that attempted to establish territories in that year, were using an area that had seen extremely light foot traffic. The same is true of raptors that used Chalk Bluff for foraging and courtship displays while breeding nearby. The raptor population present at the beginning of the study was apparently composed of individuals sensitive to disturbance in the form of foot traffic, and certainly had little opportunity to become habituated. It appears that the entire raptor population responded to the dramatic increase in disturbance by completely abandoning this area of rare and valuable habitat.

It is highly unlikely that displaced raptors were able to simply take up residence in habitat of equal value elsewhere. Riparian habitat is rare in the eastern Sierra; its juxtaposition with extensive cliffs is even more uncommon; and competition for territories at any such site would already be strong. Thus, loss of this breeding season habitat is likely not only to remove essential predators from the local ecosystem but also to contribute to a regional decline of the species involved.

Published guidance to land managers (Richardson and Miller 1997, Pyke 1997) recommends protecting raptors from human disturbance with spatial and temporal buffers that take into account site-specific information, the source or type of disturbance, and the prior disturbance history of individual raptors. The climbing advocacy group The Access Fund provides managers with several specific factors to consider before implementing a closure to protect raptors from disturbance by climbers, all of which are addressed in this EA. Pointing out wide variations in raptor response to disturbance, The Access Fund stresses the need to tailor site-specific management to site-specific observations (Pyke 1997).

In addition to management direction in the Bishop RMP, BLM management guidance at the national level includes "Cliffs containing several nests of various species of raptors... should be closed to rock climbing during the nesting season" (Call 1979, p.26) and "In each case, evaluate the *potential* capability of habitats to support raptor populations, not just those areas currently occupied by raptors" (Olendorff et al. 1989, p. 43).

Northern harrier, golden eagle and prairie falcon are listed by the State of California as Species of Special Concern and BLM policy is to cooperate with the State in managing these. The state Department of Fish and Game cites human disturbance at nest sites as major threats to the golden eagle and prairie falcon and recommends prohibiting rock climbing in the vicinity of nest sites (Remsen 1978).

Description of Proposed Action

The proposed action is:

- to implement a voluntary interim seasonal closure of the western part of Chalk Bluff, and part of the Volcanic Tableland along the rim of the bluff, to all foot, vehicle and equestrian traffic during the raptor breeding season from January 1 through July 31;
- to monitor compliance and raptor response;
- this voluntary interim closure to remain in effect seasonally pending completion of a management plan/strategy specifically addressing natural resources and public uses affecting the Chalk Bluffs and Volcanic Tableland. This plan is scheduled for completion in 2002.

The area proposed for seasonal closure includes all BLM-managed public lands north of the northern edge of Chalk Bluff Road, to the northern boundary of Sections 24, 19, 20, 21; and west of the eastern boundary of Section 21 (which touches the uppermost tip of the Happy Boulders canyon) to, but not including, the dirt road which climbs the bluff above Pleasant Valley Dam, branches from the power line road and proceeds north about 1/4 mile east of the power line road [see map]. The closure area does not include the foot trail up Chalk Bluff located in the center of Section 21, west of Happy Boulders; this trail will remain open to foot traffic.

Implementation

The voluntary closure will be implemented by the following means:

Work with Los Angeles Department of Water and Power to coordinate closure
Distribution of press releases notifying public of BLM's proposal and final decision
Meet with climbers and other community members
Post signs along perimeter of closed area
Post information and explanation on web site
Post information and distribute flyers explaining closure at Happy Boulders kiosk, climber's campground, businesses serving climbers, etc.

Wildlife and recreation staff will verify that the action has been completed as described. A brief report will be attached to the original copy of this document.

The long-term Chalk Bluff/Tablelands management plan is scheduled for completion by the end of 2002.

Effectiveness Monitoring

Compliance: BLM staff will identify observation points from which the closed area can be observed with binoculars and, along with volunteers, will cooperate in monitoring compliance frequently. Traffic counters will be placed on the two major primitive vehicle routes, and on the two major foot trails from Chalk Bluff Road, leading into the voluntary closure area.

Raptor response: The raptor study that has been underway since 1999 will be continued in a similar manner, with particular focus on the voluntary closure area and on any raptor habitat that may receive increased recreation use as a result of this action. See Bero and Bero (1999, 2000, 2001) for details of study methods. Observations will begin in January and continue at least through May. Any nests that are established will be monitored through fledging to determine their success. The information obtained will help guide future management decisions.

Peripheral areas: To determine the possible effects of recreational uses of adjacent and nearby areas on raptor use in Chalk Bluff and other raptor nesting habitat with in the study area, we will monitor with vehicle counters all vehicle traffic on the rim; continue the raptor study throughout the current study area and evaluate any need for an expanded study; and monitor recreation use in Fish Slough with emphasis on the East Side Bluff area.

A summary of monitoring results will be attached to the original copy of this document.

Public Involvement

A public meeting was held in Bishop on November 26, and input was solicited at the meeting and via the press release announcing the meeting. Seventeen letters were received and many verbal comments were recorded by the December 5 close of that comment period.

Appendix 1 summarizes comments received and details our response. Many comments were helpful to BLM in developing this proposal. Some comments influenced changes from the tentative proposal originally presented to the public. Some showed a need for us to clarify the quality and scope of the

1999-2001 raptor study, and the intent of this proposal. Several proposed topics for an expanded raptor study and in-depth study of recreation impacts on raptors which will be implemented beginning in 2002 and/or addressed in the course of developing the long-term management plan. Several letters expressed concern about raptors and their habitat and some emphasized that climbers do care about raptors and the environment; BLM is aware of this and acknowledges climbers as a responsible user group. Concerns about impacts to climbing access were expressed; those that are relevant to this decision are addressed within this document and others will be addressed in the long-term plan. Climbers and others offered several suggestions which will be addressed in the long-term plan.

Affected Environment and Environmental Impacts

Wildlife habitat

This action is intended to restore western Chalk Bluff's value as critical breeding season habitat for raptors, the primary wildlife taxa of management concern using the bluff. The impact is uncertain because it depends upon the level of compliance, and also because we do not know what is the "trigger point" at which human disturbance may prevent raptors from using the area. We intend to observe whether the proposed action - if it effectively eliminates foot traffic on the western part of the bluff - appears to have a positive effect on raptor use patterns even though foot traffic continues at very high and likely increasing levels on the eastern part.

The raptors observed during the breeding season study are of species that are also known to winter in the region. It is unknown whether wintering individuals/pairs migrate out and are replaced by others at the onset of the breeding season. In case the individuals/pairs that are here in the winter are the same ones that might breed here given a low enough level of disturbance, it would be preferable to begin the voluntary closure as early as possible so that raptors are encouraged to use the bluff for foraging prior to beginning courtship activities and establishing territories. From this perspective, the January 1 start date is conservative on the side of favoring the recreation resource.

The July 31 end date was selected to encompass the sensitive post-fledging period, protecting the vulnerable young that have recently left any nest that may be established. Nests would likely be established by June 1 but maintaining a voluntary closure through June and July regardless of whether known nests are established will cover the contingency of unknown nests with little negative effect on recreation use, which is very light during the hot summer months.

By reducing disturbance during the nesting season the proposed action is expected to have a positive impact on smaller birds nesting on the bluff, e.g. rock wrens and cliff swallows. If raptors return the action may reduce the number of ravens using the area, which increased as raptors declined, possibly in response to raptors having vacated the available habitat. Ravens are common throughout the region and increasing through some parts. The action is intended to have a positive impact on habitat for other wildlife species using the bluff, such as coyotes, and smaller species which are potential prey for raptors. Those inhabiting the bluff likely include many if not all of the potential prey species observed by the Beros throughout the study area: small mammals, e.g. cottontail rabbits, black-tailed jackrabbits, antelope ground squirrels, wood rats and other small rodents; and reptiles, e.g. desert horned lizard, zebra lizard, long-nosed leopard lizard, desert collared lizard, sagebrush lizard, desert spiny lizard, western whiptail,

nightsnake, speckled rattlesnake, sidewinder. As predators high on the food web, raptors are widely acknowledged as "keystone species" essential to regulating prey populations and thus keeping entire ecosystems in balance.

Many climbers using Chalk Bluff bring dogs with them, allowing them to run free and disturb wildlife. A voluntary closure to human foot traffic may also have the effect of reducing dog traffic.

Soils

Soil associations within the Volcanic Tableland are Lithic Xeric Torriorthent soils within the Honova complex with rhyolitic tuff constituting the primary parent material. These are shallow soils with very low water holding capacities and plant rooting depths that are highly restricted (10-35 cm, 4-14 inches). Erosion potential within the tableland flow is low but on steeper slopes below the escarpment and in depressions and valleys between slopes which are comprised of loamy sands, erosion potential is moderate to high (USDA 1999).

Sites where soils are showing signs of increased erosion are those access points to the major bouldering sites facing the Owens River, e.g. Happy, Sad, and Sacred Boulders on Chalk Bluff. These steep slopes are currently ascended by main trails with moderate signs of "switchback" cuts. Within the bouldering sites proper, social trails are increasing causing continued removal of vegetative cover and increased erosion susceptibility. Plant pedestaling, another indicator of soil erosion, is also occurring around heavy-use areas.

Current and increasing use of these areas will increase the risk of soil erosion by removing vegetative cover along access points and in the vicinity of "congregation" areas. Increased soil erosion will impact future vegetative recovery of the sites by changing microtopographic features important for environmental characteristics such as shade, moisture and cryptobiotic soil organisms that enhance seedling establishment.

The proposed action is expected to decrease the overall volume of human traffic along existing trails which will reduce the proliferation of switchbacks and ancillary social trails. Microsites essential for seedling establishment will be protected by reducing the loss of vegetative cover and commensurate soil loss.

Vegetation, including invasive weeds

A baseline inventory for the Volcanic Tablelands was completed in 1977 and was recently correlated to the 1999 NRCS soil/vegetation inventory (USDS 1999) to document plant cover and composition and to develop updated ecological site descriptions. The Volcanic Tableland is within the Great Basin and Northern Mojave Floristic Provinces. The dominant plant communities are mixed desert scrub and shadscale scrub. Shadscale scrub is dominated by shadscale (*Atriplex confertifolia)* and budsage (*Artemisia spinescens)* with a sparse (15% or less) understory of desert needlegrass (*Achnatherum speciosum)* and Indian rice grass (*Achnatherum hymenoides)* (Barbour and Major 1977). Additional species include, but are not limited to: spiny hop sage (*Grayia spinosa),* horsebrush (*Tetradymia canescens* and *T. axillaris),* Nevada ephedra (*Ephedra nevadensis),* winter fat (*Krasheninnikovia lanata),* yellow rabbitbrush (*Chrysothamnus nauseosus),* green rabbitbrush (*Chrysothamnus teretifolious),* gold bush (*Ericameria cooperi),* and cheesebush (*Hymenoclea salsola).* During years of high precipitation

annual forbs are abundant and include species of the genera Cryptantha , Mentzelia, Linanthus and Phacelia, and genera in the Asteraceae Family.

In 1999 23 photo points were established in key bouldering locations. As of 2000 these monitoring sites have not demonstrated vegetation removal that is significantly impairing the large-scale ecological function, e.g. nutrient cycling and plant production of these plant communities. However, with any increases in vegetation loss commensurate increases in soil erosion indicators will occur which may begin to compromise the inherently long-term recovery potential of these plant communities.

Conditions suitable for plant establishment occur very infrequently and it can take up to 60 years to reach predisturbance biomass production levels and up to 180 years for recovery of species diversity to occur. The key impacts to the ecological function of the desert-scrub community following disturbance may include:

- Increased soil erosion
- Reduced water infiltration and soil moisture holding capacity
- Increases in radiation and commensurate increases in evapotranspiration
- Reduction in seedling establishment due to changes in overstory plant cover and structure
- Reduction in nutrient cycling capacity
- Increased proliferation of non-native weed species

Cryptobiotic soil crusts are made up of mosses, lichens and cyanobacteria (blue-green algae). These crusts are found throughout the Northern Mojave and Great Basin deserts on a variety of different soil substrates. Most organisms are found within the first 4 mm of the soil surface and are most easily seen during early spring when soil moisture levels are higher. Loss of ecological benefits of cryptobiotic communities (Bainbridge 1988, Bloss 1986) could result in impacts including:

- Reduced water-holding capacity of the soil
- Reduced nutrient-cycling in the soil
- Increase of weedy, non-native annual grass invasion
- Increase in soil erosion (for example, mature crusts can withstand 100 mph ground winds)

Cryptobiotic communities are found within the more mesic microsites of Chalk Bluff which include north facing boulders and basins. Current impacts where climbing occurs include defacing of lichen and moss covered rocks through bouldering route selection and use, and trampling of cryptobiotic crusts during climbing approaches.

Currently the density of invasive, non-native plant species is low and is not affecting native species composition or vigor within the Volcanic Tablelands or contributing to other environmental impacts, such as fire hazard, increased erosion, or large-scale reductions in mychorrhizal densities (Bethlenfalvay and Dakessian 1984). Cheat grass (*Bromus tectorum*) and red brome (***Bromus madritensis ssp. rubens***) can be found in trace amounts in the vicinity of the main access points and within the concentrated bouldering sites. These species were here prior to increased bouldering activity but could increase due to seed transport by users.

Long-term impacts of recreation use at present or increasing levels would increase the removal of vegetation cover and associated impacts to microsites, cryptobiotic soil communities and overall production and ecological function of these plant communities in the long-term. Recovery of impacted

areas will also be set back, exposing these areas to increased risk of weed invasion. Impacts would include increased weed densities due to more human vectors transporting weed seed to areas where vegetative cover has been decreased. Increases in weed densities will also lead to a reduction in native plant cover and vigor (below and above ground production), increased erosion leading to increased germination of invasive weed seed (Evans and Young 1972) , and a reduction in mychorrizal populations.

Given compliance with the voluntary closure, impacts of the proposed action on the vegetation within the project area will include a reduction in the loss of vegetative cover along access and social trails, and in congregation areas. Impacts to cryptobiotic soil communities will also be reduced. Reduced loss of vegetative cover will also protect existing microsites necessary for seedling germination and increase the recovery of impacted sites. Under the proposed action, seasonal access limitations will decrease the amount of weed seed transport and reduce the inputs to the seed bank of particular sites within the seasonal closure area .Long-term impacts will include decreases in competition with native annual and perennial seedlings, increases in nutrient cycling by increasing species diversity, and reducing soil erosion by favoring the recruitment of deeper rooted perennial species during favorable climatic events.

Special status species

There will be no impact to plant or animal species federally listed as endangered, threatened, candidate or sensitive. There are no known listed or sensitive species or habitats within the proposed action area. Raptors in general are considered to be species of management concern, and northern harrier, golden eagle and prairie falcon are listed by the State of California as Species of Special Concern. This action is intended to benefit these species.

Special Status Plant Species are those species that have been listed by the California Native Plant Society as List 1B species which includes plants that are rare, threatened or endangered in California and elsewhere (CNPS 2001). All of the plants constituting List 1B meet the definition of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. The Bishop Resource Management Plan (BLM 1993, p. 17) stipulates year-long protection of sensitive plant (Special Status Plant) habitats.

Unique plant communities at the base of Chalk Bluff along the Pleasant Valley Road include alkali scrub and alkali meadow communities that contain State Endangered (*Sidalcea covillei*, Owens Valley Checkerbloom) and potential habitat for several California Native Plant Society List 1B species. The alkali meadow community is under Los Angeles Department of Water and Power management, but portions of the alkali scrub community which contains suitable habitat for *Menzelia torreyii* (Torrey's blazing star) and *Phacelia inyoensis* (Inyo Phacelia) are on BLM administered land. Confirmed locations of these species are within a 1 mile radius of the project area. Surveys for these species within the project area, which has not been surveyed for rare plants, will be conducted in spring of 2002.

Impacts of the proposed action to special status plants are those described for vegetation in general, above.

Cultural resources

The Volcanic Tableland is a culturally rich area as evidenced by numerous prehistoric archaeological sites distributed across this unique geologic landscape. Site types range from task specific, such as hunting, retooling and milling stations, to more temporally and spatially complex, long term habitation and rock art sites. Petroglyph sites on the Tableland have been a focal point of public use and enjoyment with the Bishop Petroglyph Loop receiving hundreds of visitors per year. Visitors come from all over the world to experience these richly symbolic constructs of the past. Noted for their regional and national significance, two rock art complexes on the Tableland have been placed on the National Register of Historic Places (NRHP).

Though some focused archaeological research has been conducted in and adjacent to the Fish Slough Area of Critical Environmental Concern (Basgall and Giambastiani 1995; Giambastiani 1996, 1997; Meighan 1955; Nelson 1996, 1999; Nissen 1982), little is known about the cultural prehistory of the Tableland proper. Investigations at seven sites by Basgall and Giambastiani (1995) provide the most comprehensive research on the Tableland to date, while Nelson focused her dissertation work at one site at Fish Slough and Nissen (1982) examined the Red Canyon petroglyph site. Basgall and Giambastiani (1995) found that the area in and around Fish Slough was utilized by prehistoric cultures for at least 10,000 years before present (B.P.), with the past 5,000 years B.P. being the most well represented in the archaeological record. The only research level analysis of the archaeology of the Tableland proper was conducted by Giambastiani (1997) for his doctoral dissertation.He surveyed twenty-seven 150 meter wide by 2000 meter long transects and two partial transects covering an area of 8.25 square kilometers (2,042 acres) to the north of the Chalk Bluff. Seventeen prehistoric sites and 219 isolated finds were recorded.The final results of these analyses are pending completion of the dissertation.

The Happy and Sad Boulders were inventoried for archaeological sites, and though sites have been found in the area it was determined that they were far enough removed from the main bouldering areas that they were not in any immediate threat. At Sad Boulders vehicular access to one site was closed due to increased camping pressure and resulting impacts at the site. These sites continue to be monitored.

Taking a proactive approach to the protection of the cultural resource values along the Chalk Bluff area, and pursuant to Section 110(a)(2) of the National Historic Preservation Act (NHPA) of 1966, as amended and under the guidelines of the Bishop Resource Management Plan (1993:9(12)), in the winter of 2000-2001 the BLM archaeologist identified new areas of high potential for increasing bouldering use on the southern Tableland, western Chalk Bluff area. Three targeted survey areas were identified including the Sacred Boulders and two other faults on Chalk Bluff west of the Happy Boulders. Five hundred acres were proposed to be surveyed of which only 303 acres were completed due to the high number of archaeological sites encountered (Jackson 2001). The target areas were inventoried in a random fashion due to the difficulty of the terrain. Sites identified were recorded with GPS coordinates, photographs and a brief description of the cultural constituents were documented.

Within the 303 acre survey area 40 prehistoric sites were identified, ten of which had been previously recorded; five of these were re-recorded. Sites include small caves, petroglyph and pictograph sites, milling localities, and more extensive seasonal habitation areas. The results of the survey indicate that the Chalk Bluff area of the Tableland is culturally rich with 33.3 sites per sq km. This is in comparison to Giambastiani's (1977:11) efforts north of Chalk Bluff, which yielded 2.1 sites per sq km, and Meighan's (1955) efforts near Fish Slough which yielded 3.2 sites per sq km. This extreme difference in site densities indicates the importance of the Chalk Bluff area to prehistoric peoples. In comparison to other regions along the eastern Sierran front (Hall 1980; Halford 1998:113 [15.6 sites per sq km]), where it is known that significant site densities occur, the site density along Chalk Bluff is highly significant.

At our current state of knowledge we do not understand the cultural or temporal importance of the Chalk Bluff area in the subsistence and settlement systems of the prehistoric hunter-gatherers who used the Tableland and the region. When considered singularly, based on the surficial data collected at each site, it appears that some of the sites recorded in the survey area would not be eligible for inclusion on the National Register while others would. When considered as a whole the area is a culturally rich landscape and could qualify as a National Register District. Due to the significant site numbers future study of this area has important implications for our understanding of the local and regional archaeological record. It should also be noted that site integrity in the area appears to be high with limited evidence of vandalism. The relatively pristine nature of the western Chalk Bluff area further supports the importance of preservation or adequate research before impacts to the sites can occur. It is certain that the area warrants concerted research.

Pursuant to Section 110(a)(2) of the NHPA of 1966, as amended and the implementing regulations found at 36 CFR 60, "Each Federal agency shall exercise caution to assure that any such property that might qualify for inclusion is not inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate significantly".

As part of the Chalk Bluff evaluation (Jackson 2001) a three tier threat index was developed to determine the level of current or potential impact to sites in the study area. A rating of (1) represents little or no threat from climber use; (2) represents potential impairment from climber activities; and a (3) indicates that climber activities are present on or in the immediate vicinity of the site. Of the 35 sites specifically reported by Jackson (2001), ten sites received an index of (2) and nine received a (3). These ratings indicate 54% of the sites could be threatened (26% currently threatened, 28% potentially threatened) by increased bouldering activity on the western Chalk Bluff.

Threats to sites include direct impacts from bouldering on sites and trailing through sites, both of which can cause vertical and horizontal displacement and mixing of artifacts and stratigraphy, severely reducing site integrity and research potential. Secondary impacts from casual collecting of artifacts are also important to consider as the artifacts most often removed tend to be the temporally diagnostic elements which are critical for assessing site use and history.

Based upon recent field observations of the current level of use, direct impacts to cultural sites are limited and it is predicted that secondary impacts are low along the western Chalk Bluff. Should the trend towards increased use of the western Chalk Bluff for bouldering activities continue steps should be taken to ensure protection or mitigation of cultural values in the area. Due to the significant number of sites the area should be viewed as a cultural landscape. As a whole, the multiplicity of sites and the activities represented indicate the importance of this unique habitat to the prehistoric inhabitants. In this case, sites should not viewed solely as singular circumstances to be mitigated. Each site provides a piece to the puzzle with the sum of the whole providing a more inclusive understanding of past use of the area.

The following actions are not a part of the proposed action for this EA but are noted herein as recommendations for the cultural resources on western Chalk Bluff: 1) At present a monitoring program should be established to continually assess and evaluate use trends and impacts to sites. 2) Should impacts increase site eligibility determinations should be undertaken in affected areas. To determine the eligibility of prehistoric sites a subsurface testing program would need to be instituted which should give thoughtful consideration to research design to ensure that sites are not mitigated as singular entities, but with the goal of contributing to our understanding of the broader patterns of prehistoric and ethno-historic use of the western Chalk Bluff area. 3) If bouldering use trends increase and funding is

unavailable for monitoring and appropriate eligibility determinations it may be necessary to consider specific area closures to bouldering activities to protect cultural resource values from degradation.4) A research program should be promoted to further enhance our knowledge of the western Chalk Bluff area which could lend to the potential nomination of the area as a National Register District in the future.

The proposed action, restricting seasonal foot traffic on a voluntary basis into this area, may help prevent impacts on the cultural resource values of the western Chalk Bluff. The voluntary seasonal closure may provide a step toward protecting the cultural sites from the potential impacts of increasing encroachment of bouldering activities, while still maintaining public access during the rest of the year. The proposed action may increase use in other areas of the Tableland where the archaeological values are not well understood. An inventory program similar to last year's is planned for this coming year to assess other targeted areas.

Native American concerns

The Volcanic Tableland was utilized for its resource values through prehistory as well as during ethno-historic times and at one time was proposed as reservation lands. It has been identified as having cultural value to various groups of the Paiute/Shoshone peoples who inhabit the Owens Valley today. In his ethnography of the Owens Valley Paiute, Steward (1933) identified the area as an important "*wai*" (Indian ricegrass) collection area. Due to increased bouldering use of the Happy and Sad Boulder areas, The Utu Utu Gwaitu Paiute Tribe of Benton, the Big Pine Band of the Owens Valley and the Bishop Indian Tribal Council were notified by certified mail on February 28, 2000, pursuant to the American Indian Religious Freedom Act of 1978 and Executive Order 13007 (1996), to solicit their input concerning any Traditional Cultural Properties or Sacred Sites that may occur in the area. The BLM received no response to this inquiry. However, in a meeting with the Bishop Tribal Council, on May 9, 2000, the Council did express concern that sites may be affected if the activity continued to proliferate. This document provides notification to the Tribes of the cultural resource evaluations reported above and will be sent under specific cover soliciting Tribal concerns regarding traditional uses of the area that may be affected by the proposed action. Also, a notification of the proposed action was sent to all Tribes within Bishop Field Area on November 16, 2001, under the auspices of an Interim Management Policy Public Notice.

Visual resources

The area that would be affected by the proposed action is classified as a Visual Resource Management Class II area. The RMP describes the management objectives for this class as retention of the existing landscape's character. Management activities may be seen from key observation points but should not attract the attention of the casual observer.

Under the proposed action, the Visual Resource Management class objectives would be met since the proposal would not affect any scenic resources. The class objectives also would be met if no action were taken. The casual development and use of access trails, loss of vegetation, and chalk marked boulders in the interior of Sacred Boulders would not be seen from the key observation point of Chalk Bluff County Road. However, the access trail on the face of Chalk Bluff would be a very minor visual contrast and would be difficult to see from Chalk Bluff County Road due to the angle of the bluff and road. It would not attract the attention of the casual observer.

Recreation

The RMP prescribes a semi-primitive management philosophy for the Volcanic Tableland which was developed with considerable public input.This strategy is designed to manage area uses to conform with the biological, archaeological, and physical sensitivity of the Tableland's desert environment.The strategy seeks to disperse visitor use; avoid concentration of users and associated impacts; minimize infrastructural needs such as toilets, parking areas and signs; and encourage independent exploration and discovery of public lands with few visitor amenities.

The popularity of bouldering in the Chalk Bluff has grown tremendously in the past three years with Happy Boulders and Sad Boulders experiencing the most use in the Chalk Bluff and Volcanic Tableland area.The Bishop Tuff volcanic rock type provides unique and challenging bouldering "problems" that attract people from throughout the world.

Within the area of the proposed action, the only known bouldering locations are Sacred Boulders and one or two additional unnamed faulted bluff escarpments. These areas appear to get light use when compared to Happy and Sad Boulders. They also have fewer bouldering opportunities than Happy or Sad Boulders and have been minimally marketed. The quality of climbing and rock solidity is comparable to Happy and Sad Boulders. Like the Happy and Sad Boulders areas, the south facing aspect of Sacred Boulders makes it an appealing place to climb during winter - a unique feature of the area. Boulderers likely stay in the Sacred Boulders and other bouldering locations of the proposed action area for several hours, attempting several problems. Overall, most bouldering use occurs from September to May as visitors flock to the eastern Sierra's mild winter climate and abundant climbing opportunities. Some light use by locals occurs during the summer months, mostly in early morning and early evening hours when the temperature is cooler.

There are a number of bouldering sites at other BLM locations, and sites on the Inyo National Forest and the City of Los Angeles Department of Water and Power land, which receive varying degrees of use.

Use in the Happy Boulders and Sad Boulders areas exceeded 18,000 visitors during the 2000-2001 season. Along with recent increases in the remainder of the Tableland, this surge of use has necessitated focused and measured management actions to reduce resource impacts and maintain the area's unique bouldering opportunities. These measures include parking area development, trail development and management, toilet installation, creation of a primitive campground, production of visitor services literature, resource rehabilitation, and increased visitor services patrols. Most of these actions have traditionally centered around the Happy and Sad Boulders sites where the highest concentration of bouldering use occurs. The Access Fund, a climbing activist organization, has generously contributed some funds to defray the cost of these expenses. Additionally, the bouldering community as a whole has been quite helpful and cooperative in supporting the BLM's efforts.

Over the last several years, the BLM has worked with the bouldering community and bouldering marketers to direct and concentrate visitor use to the east part of the bluff to maintain semi-primitive landscapes elsewhere in the Chalk Bluff area and the Volcanic Tableland. Overall, visitor use in the western half of the bluff (the proposed action area) has been low. No visitor use data exists for this area. A handful of hikers and perhaps some vehicle enthusiasts explore the area's few roads and trails. Two primitive vehicle routes occur in the proposed action area and would be affected by the voluntary closure. Also, some visitors are attracted to the area's cultural landscape and its associated values. Increased use

by boulderers of culturally sensitive areas may lead to impacts from inadvertent trail damage, climbing near or on sites, etc.

Since 1998, bouldering has become very popular further east at the Happy Boulders and Sad Boulders locations. As its popularity grew bouldering activity inevitably spread to adjoining areas along Chalk Bluff to places such as Sacred Boulders, and to interior portions of the Volcanic Tableland. Until such time as the popularity of the area or the sport peak, it is expected that the use and demand for new bouldering challenges will continue.

The cooperative nature of the bouldering community and other area users leads to an implicit assumption in this analysis that compliance with the voluntary closure would occur. Under the proposed action, the voluntary closure would have the following impacts to recreationists in the area.

Some seasonal bouldering opportunities would be lost during the period the closure is implemented. Most of the lost opportunities would be in the Sacred Boulders and at one or two additional bluff sites. Impacts to the boulderers would be low because: 1) technical bouldering problems are fewer in these areas; 2) there are alternate bouldering locations along Chalk Bluff within minutes of the proposed action area; and 3) there are numerous alternative bouldering opportunities at other nearby BLM, Inyo National Forest, and City of Los Angeles Department of Water and Power lands. It is anticipated that some of the displaced use from the proposed action area would relocate to these locations. Bouldering would be seasonally available for public use from August 1 to December 31, reinstating some of the area's foregone opportunities from summer's end to mid-winter.

It is anticipated that the temporary and seasonal prohibition would impact some hikers, vehicle enthusiasts and other visitors, although alternative hiking and other recreation opportunities are abundant outside the proposed action area. Visitors would be unable to visit the west half of Chalk Bluff from January through July, resulting in the temporary loss of recreation opportunities. The area would be available for visitation from August 1 to December 31. Physical impacts from vandalism to the cultural landscape may be fewer during the closure period since foot use would be less likely. Additionally, visitors may go to alternate locations outside the proposed closure area and potentially impact these sites.

If no action were taken, the west half of Chalk Bluff would remain open to foot, equestrian, vehicle and associated bouldering activities year round. There would be no adverse affects to bouldering, hiking, or other recreation opportunities, although many possible bird watching opportunities would be forgone due to raptor abandonment of the area. Values of the cultural landscape would be more vulnerable to vandalism or inadvertent site damage due to availability of access.

Specially designated lands - Wilderness Study Area

The proposed action is not within a Wilderness nor Wild and Scenic River corridor and will have no effect on lands so designated. The voluntary seasonal closure area is near the Fish Slough Area of Critical Environmental Concern, which is part of the area covered by the raptor study and also showed a decline in raptor use. Home ranges of raptors using the ACEC typically include Chalk Bluff as important breeding and/or foraging habitat, so this action may have a positive effect on the ACEC's raptor population.

Part of the area proposed for seasonal closure is within the southern portion of the Volcanic Tableland Wilderness Study Area (WSA) CA-010-081. WSAs are managed under the Interim Management Policy

for Lands Under Wilderness Review (IMP) to protect wilderness values of naturalness, outstanding opportunities for solitude or primitive recreation, and any special features that occur in the WSA. The loss or alteration of wilderness values such as raptor habitat, raptor breeding behaviors, or cultural landscape integrity as a consequence of recreation use in a WSA is an impediment of natural processes that existed prior to that recreation use. The IMP directs BLM to maintain and protect these natural processes. The proposed action is therefore expected to have a positive impact on WSA values of naturalness since vegetation loss and trail development would be reduced seasonally. It may benefit special features such as raptors if the seasonal closure is successful in reestablishing raptor activity. It may also help prevent future impacts to the cultural landscape of the proposed action area by reducing access to the area, although displaced visitors could go to alternate locations outside the closed area and potentially impact these locations.

Opportunities for primitive recreation such as hiking, equestrian use and bouldering are seasonally lost during the voluntary closure period in the proposed action area. Opportunities are available elsewhere in the area and it is expected that some of the displaced use would relocate to these areas during the closure period.

The proposal will not produce an aggregate effect upon the area's wilderness characteristics and values that will constrain the Secretary's recommendation of the area's suitability or nonsuitability for preservation as wilderness. The proposal would not contribute to cumulative effects which is considered to be negligible. The proposal will not reduce the overall wilderness quality of the WSA.

Other impacts required to be considered

Air quality will not be affected. There will be no impacts to prime farm lands, flood plains, nor water quality (including ground or surface waters). There will be no disproportionate impacts to low income or minority groups, per Executive Order 12898 (2/11/94).

Indirect impacts

There is a possibility of indirect negative effects of this action if it draws more attention to the area in question and recreation use increases as a consequence, either during the raptor breeding season (in noncompliance with the voluntary closure) or at other times. Although the area is thought to be most critical for raptors during the breeding season, raptors have used it year-round and it may be important as a wintering area. Cultural resources, plants and soils are vulnerable to recreation impacts year-round. Impacts will depend upon the level of voluntary compliance, and the discretion and consideration of recreation users at all times of year.

Cumulative effects

Cumulative effects are direct or indirect effects that result from an action when considered with other past, present and reasonably foreseeable future actions of the agency and other agencies or private parties.

This project is expected to contribute to cumulative effects as follows:

Soils and weeds: Trail proliferation within bouldering sites represents an additional level of soil impact and spreading of invasive weeds in the Tableland area, other parts of which are already subjected to OHV and sheep grazing impacts. Of key concern are the access trails on slopes greater than 10%. The proposed action may reduce the cumulative impacts of soil erosion and weed spreading in the overall area.

Displacement of use to other areas: Climbers who use the western part of Chalk Bluff are presumably seeking opportunities to climb in quieter, less-used areas than popular climbing sites such as Happy and Sad boulders. During the voluntary interim seasonal closure they might use other remote sites that also currently receive very little use. The impacts to those sites would depend upon where they are, how much use they receive and the sensitivity of resources there.

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Reviewed By:_____ **Date:** _____
Environmental Coordinator

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Appendix 1
Summary of Public Comment and Response

Public input has been very helpful to BLM in conducting this assessment and developing the proposed action. The following input - summarized from the comments of various individuals- influenced changes from the tentative proposal originally presented to the public:

- Enact a voluntary closure.
- Address vehicle traffic as well as foot traffic.
- Don't include the trail in the middle of Section 21 in the seasonal closure area.

Some comments show a need for us to clarify the quality and scope of the 1999-2001 raptor study. This was an observational study performed by very well qualified professionals as recognized by the Raptor Research Foundation and Hawk Migration Association of North America. The study documented a quantified decline in the number of raptors using the area. Based on our own observations of the corresponding rapid increase in recreation use and our professional judgment that there is likely a causative relationship, BLM offers this proposal as a prudent interim measure for 2002 only while we study the situation more intensively. Several comments proposed topics for an expanded raptor study which will be addressed beginning in 2002 and/or in the course of developing the long-term management plan:

- Study of normal fluctuations, prey base, weather/climate, water availability, aquifer disruption.
- Address whether raptors are making a normal movement to other areas in some years.
- Consider if re-watering Owens Gorge or lower Owens created new habitat.
- Is 85% of raptor use reasonable for west of Happy Boulders, which constitutes ~66% of the Bluff?
- Address the possible impacts of shooting activity, and any known direct mortality to raptors.
- Immediately seek baseline information on raptors, prey, etc. in areas that may get increased use.
- Encourage university research, local outdoor education studies and local climbers to assist with research and monitoring.

Other comments urged in-depth study of recreation impacts on raptors which will be addressed in the long-term plan:

- Give numbers for recreation use on the west part of the Bluff.
- Address impacts of other recreation use, e.g. anglers, off-highway vehicles, traffic below the Bluff.
- Immediately seek baseline information on recreation in outlying areas that may get increased use.

Several letters opposing closure emphasize that climbers do care about raptors and the environment. BLM is aware of this and acknowledges climbers as a responsible user group. Points made by persons concerned about raptors included:

- Raptors are a keystone species; by controlling prey numbers they keep the ecosystem in balance.
- Displaced raptors can't simply find and occupy empty habitat elsewhere.
- Eastern Sierra raptors already face pressures from development and habitat alteration.
- Decline in raptors could lead to increase in rodents whose herbivory could threaten Fish Slough milk vetch, a threatened plant species.

A few comments showed a misunderstanding of the proposal's intent as protection of specific nest sites, and a belief that raptors here should tolerate human disturbance. One person asked that we explain our proposal in terms of precedents in other areas. We know of no other climbing area where a rapid decline in raptors was documented concurrent with the onset and rapid increase of climbing. The narrative under "Need for Proposed Action" addresses these points.

Concerns about impacts to climbing access were expressed and are addressed under Affected Environment and Environmental Impacts, or will be addressed in the long-term plan. These concerns included:

Explain why we propose closing a light use area rather than Happy/Sad where most impacts are.
Happy, Sad and Sacred face south, are particularly important to climbers during the colder winter months.
Evaluate impacts to the local economy
Concerned that the proposed interim closure could lead to closure of other parts of Chalk Bluff or the Volcanic Tableland.

One letter asked that we account for trails up Chalk Bluff that do not lead to known recreation sites. Some trails have been formed by the California Department of Forestry Conservation Camp's use of Chalk Bluff for exercising work crews. BLM has asked CDF to discontinue this practice and will rake out trails formed by that use.

There were also some objections to a statement on BLM's website for climbers which has been changed in response to these comments.

Climbers and others offered several suggestions which will be addressed in the long-term plan:

- Close access from below but leave access open from above.
- Publicize other climbing areas to spread the impacts over a wider area.
- Rather than closing an area, put a quota on use.
- Consider a dog ban or at least a leash law.
- Close the Pleasant Valley Pit campground, restrict its use, or move it to the east end of the bluff.
- Consider impacts of the Pit on other forms of recreation use.

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FINDING OF NO SIGNIFICANT IMPACT/DECISION RECORD

I have reviewed this environmental assessment including the explanation and resolution of any potentially significant environmental impacts. I have determined that the proposed action will not have any significant impacts on the human environment and that an EIS is not required; that the action is not likely to adversely affect threatened or endangered species; and that the action is in conformance with the Bishop Resource Management Plan, which was approved March 25, 1993. This plan has been reviewed, and the proposed action conforms with the land use plan terms and conditions as required by 43 CFR 1610.5.

It is my decision to implement the Proposed Action, including calling for an interim voluntary seasonal closure, and beginning a long-term planning effort to manage the Chalk Bluff and VolcanicTableland area's resources. Based on public comments and on our experience with recreational users of this area, I believe that there is a strong likelihood of good compliance with a voluntary closure while we continue to study the situation, consult with the public, and develop a long-term plan that takes into account the many natural features, resources and uses of this area and carefully considers their interacting effects.

Authorized Official: _____
Steve Addington, Field Office Manager

Date: _____